

4.10 TRANSPORTATION AND CIRCULATION

This section describes both onshore and offshore transportation systems in the vicinity of the proposed Project and the impacts of the proposed Project and Alternatives on both roadway and marine transportation and circulation. The analysis focuses on area roadways most likely to be affected by construction and operation of Project components and on impacts to marine traffic from barge transportation of crude. Further, this section analyzes impacts associated with the two transportation sub-alternative options, pipeline or trucking.

The analysis in this section is based on and incorporates by reference conclusions from the EMT EIR. This analysis also includes a review of data from the city of Goleta's 2006 GP/CLUP, associated EIR, and local and regional maps; incorporates data from Santa Barbara County MND (01-ND-34) on pier fortification and road stabilization activities that occurred in 2001; and includes information from contacts with appropriate agencies.

Where this document relies upon MMs contained in the EMT EIR to address Project impacts, these are summarized to allow report reviewers to understand the relationship of the MMs to the Project.

4.10.1 Environmental Setting

Onshore Traffic

Roadway Classification

Roadway conditions are typically described in terms of Level of Service (LOS), with LOS A indicating free traffic flow conditions and LOS F indicating stop-and-go traffic. LOS A, B, and C are typically considered satisfactory with generally free flowing conditions, while LOS D, E, and F are often considered unacceptable because they represent increased congestion and delays. LOS D is typified by increasing congestion, stable flows, where speed and freedom to maneuver severely restricted, and the driver experiences a poor level of comfort. At LOS E, roadways are near capacity and operate with significant delays and low average speeds. LOS F is defined by forced or breakdown flow and roadways operate at extremely low speeds.

Existing Transportation System

Major transportation corridors in the Project vicinity include Highway 101, Hollister Avenue, and Storke Road. The proposed Project is located at 7979 Hollister Avenue at

the far west end of the urbanized area of the city of Goleta, California. Access to the Project site is provided off of Hollister Avenue via Bacara Access Road to the EOF driveway. A dirt road runs south from the EOF across Sandpiper Golf Course and links to the beachfront dirt road which runs along the toe of the bluff to PRC 421. In the Project vicinity, access to Hollister Avenue is provided by two freeway exits, Winchester Canyon Road or Storke Road, approximately 0.5 miles west and 2.3 miles east of the EOF driveway, respectively.

Descriptions of the major roadways in the vicinity of the proposed Project are detailed below (CSLC 2006):

Highway 101: Highway 101 extends along the Pacific Coast between Los Angeles and San Francisco. Within Santa Barbara County, the 101 operates as a four- to six-lane highway and provides the principal route between Goleta and the cities of Santa Barbara, Carpinteria, and Ventura to the south, and Buellton and Santa Maria to the north. Highway 101 generally operates at an acceptable LOS in the Project vicinity, but experiences increasing congestion east of its interchange with Highway 217.

Hollister Avenue: Hollister Avenue is primarily a four-lane arterial roadway that is the main east/west surface street in Goleta. Hollister Avenue extends easterly from its terminus at the Winchester Canyon/Highway 101 interchange through the city of Goleta and the unincorporated Goleta Valley where it connects to State Street in the city of Santa Barbara. Hollister Avenue generally operates at an acceptable LOS in the Project vicinity, except west of its intersection with Storke Road where congestion increases (Figure 4.10-1). Hollister Avenue is a main transit corridor in Goleta and supports the trans-Goleta Valley bus line 11 and bus line 25 between Sandpiper Golf Course and UCSB. Hollister is striped with a Class II bike path its entire length.

Storke Road: Storke Road extends from Highway 101 in the north, approximately 1.2 miles south to El Colegio Road. Between Highway 101 and Phelps road, Storke is a four lane arterial roadway, but narrows to three lanes south of Phelps Road. Storke Road provides the primary freeway in western Goleta via the Storke Road/Highway 101 interchange. Storke Road is signalized at the Highway 101 interchange northbound and southbound ramps, and at Hollister Avenue, Marketplace Drive, Phelps Road, and El Colegio Road. Storke Road generally operates at an acceptable LOS in the Project vicinity, except south of its intersection with Highway 101 where congestion increases (Figure 4.10-1). Storke Road also serves as a main transit route, and provides transit to

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**FIGURE 4.10-1. TRANSPORTATION NETWORK AND AVERAGE DAILY
TRAFFIC VOLUMES IN THE PROJECT VICINITY**

access UCSB and the Camino Real shopping center via lines 6, 10, 12, 23, 24, 25, and 27. Storke Road is also striped with a Class II bike path along its entire reach.

Bacara Access Road: This two-lane road provides access to Sandpiper Golf Course, Bacara Resort, the EOF, and the Project site from Hollister Avenue. Its intersection with Hollister Avenue is controlled by a stop sign.

Existing and Future Roadway Conditions

Existing and future roadway conditions were derived based upon data from the EMT EIR as well as that from the EIR on the city of Goleta's recently adopted GP/CLUP. Because the EMT EIR appears to rely upon older data (2004), AMEC also reviewed and where applicable utilized more recent data from the city's GP/CLUP EIR. However, that EIR only assessed the impacts of full development of Goleta's GP/CLUP over the next 15 to 20 years and therefore this more recent data would exceed the scope of required cumulative analysis for an individual project. As a result, this EIR relies primarily upon the older data and analysis contained in the EMT EIR. Estimated current and future roadway and intersection conditions in the Project vicinity are summarized in Tables 4.10-1 and 4.10-2. As can be seen from the information in these tables, most roads and intersections in the Project vicinity operate at an acceptable LOS (LOS A-C) and would continue to do so even with the addition of substantial traffic associated with development of pending projects. However, the section of Storke Road south of Highway 101 currently operates at LOS F and the segment of Hollister west of Storke Road is projected to operate at LOS D with cumulative traffic. Currently, the intersection of Hollister Avenue and Storke Road operates at LOS C and is projected to decline to LOS F with the addition of cumulative traffic.

Offshore Traffic

Marine traffic is typically described in numbers of port calls per vessel category, e.g., tankers, container vessels, as well as the number of vessels that traverse a given waterway. Offshore waters in high traffic areas can be designated as safety fairways to prohibit the placement of surface structures such as oil platforms in the area. The USACE is prohibited from issuing permits for surface structures within safety fairways, which are frequently located between a port and the entry into a Traffic Separation Scheme (TSS) (CSLC 2006).

Table 4.10-1. Roadway Traffic in the Project Vicinity

Roadway	Classification	Existing		Future*	
		ADT	LOS	ADT	LOS
Hollister Ave. at intersection with Storke Rd.	4-lane Arterial	29,500	C	31,900	D
Hollister Ave. at northern ramp of Highway 101	2-lane Arterial	6,900	A	7,700	A
Hollister Ave. (without Pacific Oaks)	2-lane Arterial	11,400	A	13,000	B
Hollister Ave. without Canyon Green Dr.	4-lane Arterial	19,000	A	21,000	A
Storke Rd. (Highway 101 ramp—Hollister Ave.)	4-lane Arterial	40,000	F	41,900	F
Storke Rd. (Hollister Ave —Phelps Rd.)	4-lane Arterial	21,000	A	24,100	B
Storke Rd. (Phelps Rd.—El Colegio)	3-lane Arterial	15,800	A	16,200	A

* Includes the proposed Projects in the vicinity. LOS = level of service; ADT = average daily traffic.

Source: CSLC 2006; City of Goleta 2006a.

Table 4.10-2. Intersection Traffic in the Project Vicinity

Roadway	Control	Existing		Future*	
		V/C Ratio or Delay	LOS	V/C Ratio or Delay	LOS
Hollister Ave./Highway 101 southbound Ramps	Stop-Sign	10.3 sec.	B	11.4	B
Hollister Ave./Ellwood School	Signal	0.36	A	0.40	A
Hollister Ave./Santa Barbara Shores Drive	Stop-Sign	8.5 sec.	A	8.7 sec.	A
Storke Rd./Hollister Ave. ¹	Signal	0.76	C	0.97	E
Storke Rd./Highway 101 northbound Ramps	Signal	0.59	A	0.61	B
Storke Rd./Highway 101 southbound Ramps	Signal	0.49	A	0.52	A

* Includes the proposed Projects in Goleta. LOS = level of service; ADT = average daily traffic.

¹ The EMT EIR identifies this intersection as operating at LOS D; however, more recent data from the Goleta Community Plan EIR identifies this intersection as operating at LOS C as depicted in this table.

Source: CSLC 2006; City of Goleta 2006a.

A TSS is an internationally recognized vessel routing designation, which separates opposing flows of vessel traffic into lanes, including a zone between lanes where traffic is to be avoided. TSSs have been designated to help direct offshore vessel traffic along portions of the California coastline such as the Santa Barbara Channel. Vessels are not required to use any designated TSS, but failure to use one, if available, would be a major factor for determining liability in the event of a collision. The TSS in the Santa Barbara Channel extends from the waters north of Los Angeles to Point Conception. After its original designation, the USCG received approval from the International Maritime Organization (IMO) to alter the route of the Santa Barbara Channel TSS near Anacapa Island to accommodate the location of an oil and gas drilling platform (CSLC 2006).

1 Santa Barbara County experiences large volumes of ship traffic traveling along the
2 north and southbound shipping lanes located within 10 to 15 miles off the coast,
3 including traffic from container ships traveling from Asia to the major Southern California
4 ports. In 2005 there were 7,086 vessel transits along Santa Barbara County from 44
5 different countries (Santa Barbara APCD 2006). The vessel associated with the
6 proposed Project is limited to the barge Jovalan, which transports crude oil from the
7 South Ellwood Field to Long Beach Harbor and the San Francisco Bay area. The barge
8 is loaded currently approximately 25 times per year. The route used by the barge
9 Jovalan is described in Section 2.4.2, Transportation. The route is also depicted on
10 Figures 2-7 and 2-8 (CSLC 2006).

11 **4.10.2 Regulatory Setting**

12 International and Federal regulations and jurisdictions in regards to vessel safety are
13 described in Section 4.2, Safety.

14 Federal

15 The Federal government passes the responsibilities of maintaining and regulating of the
16 roadways to the State and local levels.

17 *United States Coast Guard*

18 The USCG, through Title 33 (Navigation and Navigable Waters) and Title 46 (Shipping)
19 of the CFR, is the Federal agency responsible for vessel inspection, marine terminal
20 operations safety, coordination of Federal responses to marine emergencies,
21 enforcement of marine pollution statutes, marine safety (navigation aids, etc.), and
22 operation of the National Response Center for spill response. They are also the lead
23 agency for offshore spill response.

24 On November 27, 1996, USCG underkeel clearance regulations for tanker vessels
25 without double hulls became effective (33 CFR 157.455). These regulations require, in
26 part, that the ship's master calculate the tanker's deepest navigational draft and the
27 controlling depth of the intended transit, and discuss these issues with the pilot prior to
28 any transit.

29 Current USCG regulations require a federally licensed pilot aboard every tanker vessel
30 mooring and unmooring at offshore marine terminals.

1 State

2 Caltrans maintains the State highway system, including Highway 101, which provides
3 the main vehicle access to the Project area. Maximum load limits for trucks and safety
4 requirements for oversized vehicles are generally regulated by Caltrans for operation on
5 highways.

6 Local

7 The Santa Barbara County Association of Governments (SBCAG) has responsibility for
8 all regional transportation planning and programming activities.

9 The proposed Project would be subject to the provisions of the city of Goleta GP/CLUP
10 Transportation Element and the Santa Barbara County Congestion Management
11 Program (CMP). The CMP is a comprehensive program designed to reduce auto-
12 related congestion and designates major highway and road segments within the Project
13 vicinity. The CMP requires an assessment of the Project's potential impacts on the
14 designated roadways, which include Hollister Avenue and Highway 101.

15 The Goleta GP/CLUP Transportation Element contains general goals and policies to
16 improve overall circulation in Goleta and ensure that future development is supported by
17 appropriate transportation facilities.

18 **4.10.3 Significance Criteria**

19 Thresholds of significance were derived from the State CEQA Guidelines, County of
20 Santa Barbara Environmental Thresholds and Guidelines Manual, City of Goleta and
21 the NOP. Traffic impacts would be considered significant if any of the following apply:

- 22 1. The addition of project traffic to an intersection increases the volume to capacity
23 ratio (V/C) by the value provided in Table 4.10-3, or adds at least 5, 10, or 15
24 trips to intersections operating at LOS F, E, and D, respectively.
- 25 2. Project access to a major road or arterial road would require a driveway that
26 would create an unsafe situation or a new traffic signal or major revisions to an
27 existing traffic signal.

Table 4.10-3. City of Goleta LOS Significance Thresholds

LOS (including Project) ¹	Increase in V/C Greater Than
A	0.20
B	0.15
C	0.10
	Or the addition of:
D	15 trips ²
E	10 trips ²
F	5 trips ²

¹ The adopted standard for city roadways and intersections is LOS C; with the exception of the intersection of Hollister Avenue/Storke Road, which has been built to its planned capacity, and thus under GP/CLUP policy subsection TE 4.2 has a standard of LOS D.

² For purposes of analysis of the 2030 buildout, it was conservatively assumed that any increase in V/C projected over existing conditions reflects an increase of at least the threshold number of trips defined in this table, indicating a significant impact.

Source: City of Goleta 2006b.

3. Project adds traffic to a roadway that has design features (e.g., narrow width, roadside ditches, sharp curves, poor sight distance, inadequate pavement structure) or receives use which would be incompatible with substantial increases in traffic (e.g., rural roads with use by farm equipment, livestock, horseback riding, or residential roads with heavy pedestrian or recreational use) that will become potential safety problems with the addition of Project or cumulative traffic. Exceedance of the roadway's designated Transportation Element Capacity may indicate the potential for the occurrence of the above impacts.
4. Project traffic would utilize a substantial portion of an intersection's capacity where the intersection is currently operating at acceptable LOS (A through C) but with cumulative traffic would degrade to or approach LOS D (V/C 0.80) or lower. Substantial is defined as a minimum change of 0.03 V/C for intersections that would operate from 0.80 to 0.85 V/C and a change of 0.02 V/C for intersections that would operate from 0.86 to 0.90 V/C, and 0.01 V/C for intersections operating at anything higher than 0.90 V/C.
5. Project traffic or construction must use an access road that is already at or exceeds LOS E or brings a roadway down to LOS E.
6. Project results in a roadway being degraded to a lower LOS.

7. Project results in a substantial safety hazard to motorists, bicyclists, or pedestrians.

8. Project results in insufficient parking.

9. Project restricts one or more lanes of a primary or secondary arterial roadway during peak hour traffic, thereby reducing its capacity and creating congestion.

10. Project results in a noticeable deterioration of pavement or roadway surfaces.

11. Project activities would reduce the existing level of safety for navigating vessels.

4.10.4 Impact Analysis and Mitigation

There is currently very limited regular daily traffic associated with PRC 421, as it is currently not under production. Existing traffic is limited to daily security patrols, which also provide security to the EOF. Future traffic generation associated with Project implementation would consist of construction- and operation-related traffic.

Onshore Traffic Impacts

Impact TR-1: Construction-Generated Traffic

Traffic generated from construction activities would have a short-term, less than significant impact on local transportation and circulation (Less than Significant, Class III.)

Impact Discussion

Traffic generated from construction activities would consist of daily trips from employees and periodic trips associated with delivery of the equipment and construction materials, including tractor trailer trips. The proposed Project construction timeline is estimated by Venoco to be 45 working days, although depending upon weather and other factors this may not be continuous and may extend over 3 or more months. Therefore, any potential impacts associated with traffic generated from construction activities would be of a short duration.

Project construction would generate additional vehicular movement along roads in the Project vicinity, including Highway 101, Winchester Canyon and Storke Road interchanges, Hollister Avenue, and the Bacara Access Road. The Applicant has not prepared a traffic management plan and precise estimates of construction-related traffic are unavailable. However, this EIR utilizes data for similar recent repair projects at PRC

421 to provide a reasonable worst case estimate of Project-related short-term traffic likely to be generated from construction activities. In 2004, caisson repair and stabilization efforts at PRC 421-1 required approximately 60 tractor trailer one-way trips entering/leaving the EOF and 88 round trips across the easement road between the EOF and PRC 421 access road. Similar trip generation is expected for this Project and in addition to these trips associated with caisson repair, an estimated 90 tractor trailer one-way trips entering/leaving the EOF and 90 round trips across the easement road between the EOF and PRC 421 (an estimate of two per day) associated with construction equipment and material deliveries which would be required for other Project elements such as power cable installation and PRC 421-2 repairs and improvements. In addition, during periods of peak construction such as pipeline and power cable installation or use of the workover rig at Pier 421-2, up to 12 construction workers would be onsite, generating approximately 12 morning and afternoon peak hour trips to the site (24 total). When added to material and construction equipment deliveries, construction traffic could average approximately 15 trips per day, peaking at up to 40 to 60 trips per day during the most intensive construction activities. Construction traffic is anticipated to add 15 trips per day during a “normal” construction period and 40-60 trips during an “intensive” construction period. Over an 8-hour work day, approximately 2 trips an hour would take place during “normal” construction and at most 8 trips an hour during “intensive” construction. Trips associated with “normal” construction would not exceed significance criteria according to City of Goleta and Santa Barbara County for one roadway categorized with an LOS of F (Storke Road between Hollister Road and the Highway 101 on-ramp) but under “intensive” construction (8 trips per hour) this criteria would be exceeded.

The short-term, construction-related traffic would not be expected to adversely affect long-term area roadway or intersection operations. In addition, the Applicant has proposed scheduling construction activities and associated traffic to begin at 7 a.m. and end at 7 p.m. to avoid the morning and afternoon peak hour. However, large construction vehicles and construction worker traffic could create adverse but short-term increases in congestion at the Hollister Road/Winchester Canyon Overpass.

Further, trucks would use the northbound and southbound Winchester Canyon exits to access the EOF, which operate at LOS A, meaning free flowing traffic conditions. Although Project construction would span a short duration of time, increased truck volume resulting from the Project could incrementally contribute to delays at already congested facilities such as Storke Road south of Highway 101; however, this is not anticipated to be frequent or significant. Hollister Avenue has adequate capacity to handle increased traffic

1 resulting from this Project. Should any traffic be diverted to the Storke Road/Highway 101
2 exits, impacts would also be less than significant due to majority of construction-generated
3 truck trips taking place during off-peak hours.

4 Parking would be provided at an existing easement area immediately adjacent to the
5 EOF west fence line. There are two staging areas at the EOF and a 30- by 30-foot
6 helipad at the south end of the EOF could also be used as an additional staging area for
7 vehicles and material should the need arise. Therefore no parking would obstruct
8 Hollister Avenue.

9 Further, implementation of the Project would not restrict access to or from private
10 property or adjacent land uses like the beach, restrict movements of emergency
11 vehicles with no reasonable alternative access routes, impede pedestrian movements
12 or bike trails, with no suitable alternative routes, but could result in noticeable
13 deterioration of pavement or roadway surfaces. Therefore, construction-generated
14 traffic impacts associated with the proposed Project would have a less than significant
15 impact (Class III) on local transportation, circulation, and roadways.

16 Mitigation Measures

17 **MM TR-1a. Route Construction Traffic to Avoid Congested Intersections.** To
18 minimize the potential for adverse impacts, the Project should be
19 conditioned to require construction traffic, particularly heavy trucks, to
20 avoid congested areas at Storke Road and utilize the Winchester
21 Canyon Overpass to access the site. When combined with scheduling
22 trips outside the peak hour, this measure would ensure that short-term
23 impacts remain less than significant on transportation and circulation.

24 **MM TR-1b. Repair/Upgrade Any Damage to Access Road.** To minimize the
25 potential for adverse impacts, the Project should be required to
26 repair/upgrade the access road that may have received damage or
27 degradation as a result of construction-related traffic. This measure
28 would ensure that short-term impacts would remain less than significant
29 on roadways.

30 Rationale for Mitigation

31 Implementation of the mitigation measures described above would ensure that
32 construction-related traffic would have a less than significant impact on local
33 transportation, circulation, and roadways.

Impact TR-2: Operation-Generated Traffic

Traffic from operation of the Project would have a less than significant impact on transportation and circulation (Less than Significant, Class III.)

Impact Discussion

On-road traffic generated by Project operations would be minimal. The Applicant proposes that all operational maintenance issues would be handled by existing staff at the EOF; therefore, the facility would require only limited and periodic maintenance beyond that provided by existing EOF staff and that daily security patrols are already ongoing. As a result, the proposed Project would not generate any increase in ongoing operational average daily or peak hour trips between the start of the Project and estimated Project end date of 2020.

Mitigation Measures

None required.

Impact TR-3: Increased Potential for Traffic Accidents

Large trucks and construction equipment coming to and leaving from the Project site could increase the potential for traffic accidents due to poor site distances and fast vehicle speeds at the Hollister/Bacara intersection and accessing Hollister Avenue from the Winchester Canyon Highway 101 off ramp (Potentially Significant, Class II).

Impact Discussion

The intersection of the Bacara Access Road with Hollister Avenue is characterized by non-standard alignments. This creates a relatively tight radius curve for eastbound Hollister traffic entering the access road or for westbound left turns from the Access Road onto Hollister Avenue, particularly for larger trucks. In addition, this segment of Hollister has relatively high posted speeds of 45 miles per hour and somewhat limited sight distance, particularly from eastbound traffic coming across the Winchester Canyon overpass. When combined with the unusual turning radius, these factors could expose large slow heavy trucks completing this turning movement to fast moving traffic with limited views; creating short-term potentially significant safety impacts.

1 Mitigation Measures

2 **MM TR-3a. Flagman and Construction Signs.** Venoco shall ensure that heavy
3 trucks accessing the site are accompanied by an employee that can act
4 as a flagman on an as-needed basis at the Hollister Avenue and Bacara
5 access road to assist trucks exiting the site. During construction
6 activities, Hollister Avenue, both east and west of the Bacara access
7 road intersection, shall be posted with signs indicating trucks crossing
8 ahead in order to alert vehicles of slowly accelerating trucks accessing
9 Hollister Avenue.

10 Rationale for Mitigation

11 Utilizing a flagman and appropriate signage would alert drivers to the potential hazards
12 in the area and increase the visibility of trucks and other equipment access and leaving
13 the Project site.

14 Offshore Traffic Impacts

15 Implementation of the proposed Project would incrementally increase the amount of
16 annual barge trips from the EMT to the San Francisco and Los Angeles areas. As
17 discussed in Section 2.4.3, Volumes and Throughputs, in the first year of production,
18 five additional barge trips would be required, approximately one new barge trip every
19 two months, or an annual increase of approximately 23 percent. From the first year, the
20 number of additional annual barge trips declines annually reaching two additional trips
21 per year approximately in year 9. During each trip to and from the EMT, the barge, tug
22 and assist vessels would continue with their current operations. Currently, the barge
23 Jovalan is in almost continuous use, with trips to the EMT scheduled within a narrow
24 window at the convenience of the barge operator. Thus, if the barge would be making
25 more trips to the EMT, it would be making fewer transportation assignments elsewhere
26 than it currently performs. Therefore, the overall number of trips made by the barge
27 Jovalan would not increase from current levels. The trip pattern would change, but
28 would still occur according to the applicable safety precautions and along the
29 established vessel routes. The navigational safety would not change with the proposed
30 Project, and thus there would be no vessel transportation impacts from the Project.

31 Impacts Related to Future Transportation Options

32 For the purposes of this transportation analysis, it is assumed that Line 96 and the EMT
33 would be used to transport crude oil recovered from PRC 421 using the barge Jovalan
34 to ship the oil to a Los Angeles or San Francisco Bay area refinery through
35 approximately the year 2013. However, as discussed earlier in this EIR (Sections 1.2.4,

2.4.2, and 3.3.6), several options exist for future transportation of oil from the Project, each with different potential transportation impacts. These include ongoing use of the EMT through 2013, use of a pipeline to Las Flores Canyon, and trucking of oil to Venoco's ROSF Facility 35 miles to the south and subsequent transport to Los Angeles via pipeline. There are no anticipated potential transportation impacts using the existing EMT transportation system.

Because the timing and exact mode of transportation of produced oil after the initial five years of Project operation are speculative at this point in time, the potential impacts of use of a pipeline or trucking are only briefly summarized here and are fully disclosed as part of the alternatives analysis (Section 4.10.5; Impacts TR-4 and TR-5). If neither transportation option is permitted or available by the cessation of operation of the EMT, production from PRC 421 would be stranded, at least temporarily, until an alternative transportation mode is approved and becomes available.

Table 4.10-4. Summary of Transportation and Circulation Impacts and Mitigation Measures

Impact	Mitigation Measures
TR-1: Construction-Generated Traffic	TR-1a. Route Construction Traffic to Avoid Congested Intersections. TR-1b. Repair/Upgrade Any Damage to Access Road.
TR-2: Operation-Generated Traffic	None required.
TR-3: Increased Potential for Traffic Accidents	TR-3a. Flagman and Construction Signs.

4.10.5 Impacts of Alternatives

No Project Alternative

Under the No Project Alternative, there would be no production at PRC 421, and the facilities would be decommissioned (under a separate evaluation). The No Project Alternative would avoid the majority of impacts associated with production, transfer, and transport of crude oil produced from PRC 421. No construction activities associated with the proposed Project would occur; therefore no related traffic would be generated and there would be no impact to transportation resources. Traffic generated from decommissioning activities are unquantified and would be analyzed in a future environmental document.

1 No Project Alternative with Pressure Testing

2 Under the No Project Alternative with Pressure Testing, temporary facilities and
3 equipment would be installed at PRC 421 in order to allow for temporary oil production
4 to permit flow pressure testing of the existing 421-2 well and the associated reservoir.
5 Flow pressure testing would commence for 6 to 12 months in order to determine the
6 potential for pressure increases in the reservoir upon permanent closure of the well at
7 PRC 421. After testing is completed, recommendations would be provided for the
8 ultimate disposition of the surf zone facilities. Traffic generation and parking impacts
9 associated with installation of temporary facilities and equipment would be less than
10 those associated with the proposed Project as less equipment and personnel would be
11 needed; however, the line of sight limitations would persist and therefore Impact TR-3
12 and MM TR-3a would apply to this Alternative as well.

13 Onshore Oil Separation at the EOF

14 Under this Alternative, oil produced from PRC 421 would undergo separation of oil from
15 water and gas at the EOF instead of at Pier 421-2. The EOF is already equipped with
16 the oil-water separation and treatment and discharge of produced water systems
17 necessary to treat oil produced from Pier 421-2. Although existing EOF throughput
18 levels would increase, no substantial physical modifications of existing systems at the
19 EOF would be necessary, beyond the control system improvements envisioned by the
20 proposed Project. Therefore, fewer construction activities would be necessary to
21 implement this Alternative compared to the proposed Project.

22 The separation equipment would not be installed and no modifications would be made
23 to Pier 421-1 as re-injection would take place at the EOF. Under this Alternative, Pier
24 421-1 would not be required for water re-injection and the decommissioning of Pier 421-
25 1 would be accelerated. The accelerated decommissioning would require submittal of a
26 decommissioning plan of Pier 421-1 to the CSLC and the city of Goleta within
27 approximately 6 months of approval of this Alternative. The potential effects of
28 decommissioning Pier 421-1 would be evaluated in a separate analysis.

29 Fewer daily truck trips from employees and periodic trips associated with delivery of the
30 equipment would be required as there would be less demand for employees and certain
31 pieces of equipment would no longer be required. However, the major construction
32 activities would remain similar to the proposed Project, including the Well 421-2
33 workover, and similar amounts of excavation would be required for pipeline and
34 electrical cable installation. Impacts associated with traffic generation and parking for

1 this Alternative would be less than those described for the proposed Project and
2 therefore also less than significant. MMs TR-1a, TR-1b, and TR-3a would apply to this
3 Alternative as well.

4 Recommissioning Using Historic Production Methods

5 Under this Alternative, production would resume at PRC 421 essentially in its historic
6 configuration at the time prior to the wells being shut-in in 1994 while incorporating new
7 technologies to comply with current industrial and environmental standards. This would
8 involve utilizing a gas-fired internal combustion engine to power the pump at Pier 421-2
9 and produced oil and water emulsion would be separated using a free-water knockout
10 system. Like the proposed Project, produced oil would bypass the EOF and be
11 delivered to market directly via the existing 6-inch line to Line 96 for transmission to the
12 EMT. Produced water would be stored in a tank on Pier 421-1 and periodically re-
13 injected into the underlying formation via the well on Pier 421-1. Traffic generation and
14 parking impacts would be similar to that described under the proposed Project, and
15 therefore adverse, but not significant. MMs TR-1a, TR-1b, and TR-3a would pertain to
16 this Alternative.

17 Re-injection at Platform Holly

18 Under this Alternative, all aspects of the Project would remain the same, with the
19 exception that Pier 421-1 would be decommissioned and produced water would be
20 transported via pipeline to Platform Holly and re-injected offshore rather than at 421-1.

21 Under this Alternative, Pier 421-1 would not be required for water re-injection and the
22 decommissioning of Pier 421-1 would be accelerated. The accelerated
23 decommissioning would require submittal of a decommissioning plan for Pier 421-1 to
24 the CSLC and the city of Goleta within approximately 6 months of approval of this
25 Alternative. The effects of decommissioning Pier 421-1 would be evaluated in a
26 separate analysis.

27 Impacts to traffic and transportation under this Alternative would be similar to those
28 described for the proposed Project. MMs TR-1a, TR-1b, and TR-3a would pertain to
29 this Alternative.

Transportation Sub-Alternative Options

Pipeline Sub-Alternative

This method of crude oil transportation would involve the construction of an onshore 6-inch-diameter crude-oil pipeline from the EOF to the AAPL at Las Flores Canyon. No traffic would be generated as a result of this transportation option as it would only be selected if the pipeline were already constructed. Traffic associated with operation would not increase as a result of this Alternative because the additional throughput would not require additional personnel or facilities.

Impact TR-4: Transportation Impacts from Pipeline Construction

The pipeline construction would result in short-term transportation impacts to the roads along the pipeline right-of-way (Potentially Significant, Class II).

Impact Discussion

With this Alternative, a new pipeline would be constructed. Short-term transportation impacts would occur on the roadways adjacent to the pipeline right-of-way (ROW) and those that would be used for deliveries of the pipeline construction materials and equipment. Potentially significant impacts would include:

- Damage to the road surfaces due to movements of heavy machinery and trucks, and/or due to the pipeline construction if the ROW includes a road or a side of the road; and
- Closures of lanes or entire roads, e.g., Calle Real, that would result in restrictions to traffic, emergency vehicles, bicycles, or pedestrian movements through the roads, bike trails or pedestrian walks adjacent or part of the pipeline ROW.

All project-related transportation impacts could be mitigated through development and implementation of a Construction Traffic Control Plan.

After the pipeline is constructed, operational traffic would include in the worst case, pipeline surveys that would be done weekly by maintenance crews. One trip per week on a weekly basis would have no impact on the transportation network along the new pipeline ROW. Therefore, there would be no operational transportation impacts from this method of crude oil transportation.

Mitigation Measures

MM TR-4a. The Applicant shall prepare, provide funding for, and implement a Construction Traffic Control Plan, which shall be approved by the County and city of Goleta (depending on the segment of the pipeline), and would include but not be limited to the following:

- Provide traffic controls when lanes are closed due to pipeline construction, e.g., flaggers, detour signs, orange safety cones;
- Close the pipeline trench for the non-work hours with approved plating, and surround the trench with safety barriers if necessary;
- Provide detours for emergency vehicles;
- Provide alternative routes for bicycles and pedestrians if feasible;
- Notify the residents or owners of any properties adjacent to the pipeline ROW of the construction schedule at least one week before construction in their vicinity;
- Provide access to the affected properties during the construction; if access to businesses is not possible during the work hours, provide lost-sales compensation; and
- Monitor for road damage from construction-related activities and compare the affected roads at the end of the construction to the pre-construction conditions; repair any visible construction-caused damage to restore the road to its pre-construction condition or better.

Rationale for Mitigation

Typically, for projects that have a well-developed Construction Traffic Control Plan, transportation impacts are minimized to a less than significant level. The measures in the Plan, when implemented, would ensure that traffic is regulated, safe detours are provided, delays are reduced, and the public is notified and therefore would avoid driving through the areas of construction.

Trucking Sub-Alternative

Under this Alternative, oil would be transported by double-tanker truck south to the ROSF where it would be transferred to a pipeline that feeds refineries in the Los Angeles area.

Impact TR-5: Transportation Impacts from Trucking

Transportation of oil via trucking would produce long-term transportation impacts to the roads between the EOF and Carpinteria (Potentially significant, Class II).

Impact Discussion

This method of oil transportation involves trucking the produced oil from the EOF to the ROSF. The maximum throughput case would involve approximately five roundtrips per day from the EOF (see Table 3-2). The trucks would travel along the access road that connects the EOF to Hollister Avenue, to the Winchester Canyon on-ramp, then along Highway 101, and use either Carpinteria Avenue or Bailard Avenue off-ramps to reach the Dump Road that leads into ROSF. The truck deliveries of the oil would be staggered over the length of the day. This level of traffic increase would not be significant even for congested roads in the Project vicinity (see Table 4.10-1). Highway 101 experiences LOS of E or F during the peak hours of 4:30 p.m. to 5:30 p.m. southbound and 8 a.m. to 9 a.m. northbound; however, the addition of 5 trips per day would not significantly degrade the LOS of the affected Highway 101 segments. Thus, the transportation impacts would be adverse, but less than significant through mitigation measures (Class II).

Mitigation Measures

MM TR-5a. Route Tanker Traffic to Avoid Congested Intersections. To minimize the potential for adverse impacts, the Project shall be conditioned to require tanker traffic, to avoid congested areas at Storke Road and utilize the Winchester Canyon Overpass to access the site. This measure would ensure that long-term impacts remain less than significant on transportation and circulation.

MM TR-5b. Route Tanker Traffic to Avoid Peak Hour Utilization. To minimize the potential for adverse impacts, the Project shall be conditioned to require tanker traffic to avoid transport of oil during peak hour traffic hours (8:00 a.m. to 9:00 a.m. and 4:30 p.m. to 5:30 p.m.). This measure would ensure that long-term impacts remain less than significant on transportation and circulation.

Rationale for Mitigation

Typically, for projects that have a well-developed Construction Traffic Control Plan, transportation impacts are minimized to a less than significant level. The measures in the Plan, when implemented, would ensure that traffic is regulated, safe detours are

1 provided, delays are reduced, and the public is notified and therefore would avoid
2 driving through the areas of construction.

3 **4.10.6 Cumulative Projects Impact Analysis**

4 Other projects proposed in the Project area would contribute to transportation
5 congestion; however, because the proposed Project would have no long-term
6 transportation impacts, it would not have a cumulative impact on transportation and
7 circulation in the Project vicinity.